

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/509,377

08/28/2000

Sergey Matasov

9553

TITLE: Endoscope with disposable cartridges for the invagination of endoscopic tube

United States Patent and Trademark Office  
Honorable Commissioner for Patents  
Art Unit 3739 Examiner Mr. Leubecker, John P.  
Washington, D.C. 20231  
United States of America

EXAMINER	
LEUBECKER, JOHN P	
ART UNIT	PAPER NUMBER
3739	

DATE MAILED: 02/03/2003

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TECHNOLOGY CENTER R3/00

REMARKS / ARGUMENTS

Claims 1-8 have been amended.

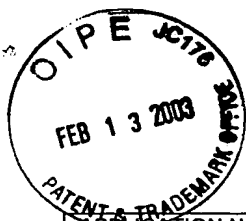
The examiner has acknowledged that claims 1-20 have now been amended to clear up all examiner's objections.

Attached hereto is a marked-up version of the changes made to the specification, claims and drawings by the current amendment. The attached page is captioned "Version with markings to show changes made".

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Faithfully Yours,

Sergey Matasov, M.D.



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the specification:

1. Paragraph, beginning at page 3, line 12 with has been amended as follows:

A compact hollow cylinder of the invaginator can be formed of tightly compressed in longitudinal and transverse directions pleats of different forms of an eversible thin-walled tube placed at any angles with the longitudinal axis of an endoscopic tube. The cylinder has recurrent narrowings of an external diameter and widenings of its internal diameter. There are possible two embodiments of the cylinder. In one embodiment the gap 25 is keeping both at putting of cartridge on the endoscopic tube 3, and at the working pressure in the cavity 14. In other – the gap 25 is necessary only for putting of cartridge.

2. Statement, beginning at page 5, line 1 has been amended as follows:

Everted end 12 of invaginator 23 is connected to shell 22 by ring 16. Invaginator 23 has narrowings and widenings 24, as well as gap 25 with distal preservative 26, at that the gap 25 is keeping also at working pressure in the cavity 14.

3. Paragraphs at page 8, lines 24-25 have been amended as follows:

70 - cutters of biopsy forceps 63:

71 - distal intensifier (drive) of traction line of the cutters 70.

**In the claims:**

Claims 1-8 have been amended by claims 1-20 as follows:

**1 claim:**

- ~~1. An endoscope with a disposable cartridge for the invagination of an endoscopic tube comprising an invaginator 23 of a thin-walled eversible tube, gathered on the distal part of an endoscopic tube 3 by pleats.~~
- ~~2. The endoscope according to claim 1, wherein the invaginator is made in the form of a compact hollow cylinder placed with a gap 25 to the endoscopic tube 3, such that the cylinder keeps the gap 25 under the action of working pressure.~~
- ~~3. The endoscope according to claim 2, wherein the invaginator 23 is placed with a gap 14 in a shell 22, whose distal end is joined with an everted end 12 of the invaginator 23, but the proximal end has a projection 31.~~
- ~~4. The endoscope according to claim 3 further comprising a distal preservative 26, whose proximal and distal areas 28 are hermetically connected to areas 28 of the distal part of endoscopic tube 3, while a proximal area 28 of said preservative 26 has a stop 11, interacting with a spring 10 and the projection 31 of the shell 22, and the distal area 28 of the preservative 26 is fixed on the distal end of the endoscopic tube 3 with the help of a tip 6.~~
- ~~5. The endoscope according to claim 4 further comprising a distancer 30, interacting with the distal end of the spring 10 and the proximal end of the cylinder of invaginator 23, while between the distancer 30 and the shell 22 is placed a sealing elastic ring 34, fixing compressed spring 10.~~
- ~~6. The endoscope according to claim 1 further comprising a mechanism 53 for insertion of endoscopic tube 3, made in the shape of a cylinder 56 with a proximal and distal pistons 57 interconnected by distancers 58 and elastic tube 59, while in a cavity 61 the opposing spring 62 is placed.~~
- ~~7. The endoscope according to claim 1 further comprising transformers of pressure in mechanical movement, made, for example, in the form of units "cylinder/piston", whose pistons are connected with traction lines 40, 41, bending the distal end of endoscopic tube 3.~~
- ~~8. The endoscope according to claim 1 further comprising the body of a biopsy forceps 63 made in the shape of a flexible tube with a piston 66 placed on its distal end correspondingly to the inner diameter of biopsy channel of endoscopic tube 3, while inside the body is placed the transformer of pressure in mechanical movement, made, for example, in the form of unit "cylinder/piston", wherein piston is connected with traction line of forceps 63.~~

**1 claim:**

1. An endoscope, comprising an invaginator of a thin-walled tube, which is compactly placed on the distal part of an endoscopic tube in the shape of small layers and/or pleats.
2. The endoscope according to claim 1, wherein the said invaginator is formed in a hollow cylinder having a gap with the distal part of the endoscopic tube.
3. The endoscope according to claim 2, wherein said gap is keeping under the working pressure in a cavity of invaginator.
4. The endoscope according to any of claims 1 to 3, further comprising a distal seal of the endoscopic tube.
5. The endoscope according to any of claims 1 to 3, further comprising a shell of invaginator for insertion in rectum.
6. The endoscope according to any of claims 1 to 3, further comprising a preservative of the distal part of endoscopic tube.

7. An endoscope, comprising a disposable cartridge for the invagination of endoscopic tube, which has:
  - an invaginator of a thin-walled tub , formed in the shape of small layers and/or pleats in a hollow cylinder having a gap with the distal part of endoscopic tube,
  - a distal seal of endoscopic tube,
  - a shell of invaginator for insertion in rectum,
  - a preservative of the distal part of endoscopic tube.
8. The endoscope according to claim 7, wherein said invaginator keeps said gap under the working pressure in the cavity of invaginator.
9. The endoscope according to any of claims 1, 2, 3, 7, 8, further comprising a proximal seal of the endoscopic tube.
10. The endoscope according to any of claims 1, 2, 3, 7, 8, further comprising a spring of invaginator.
11. The endoscope according to any of claims 1, 2, 3, 7, 8, further comprising a tip of the endoscopic tube.
12. The endoscope according to claim 11, wherein said tip comprises a protective glass.
13. The endoscope according to claim 12, wherein said tip comprises a channel in the cavity of intestines.
14. The endoscope according to any of claims 1, 2, 3, 7, 8, further comprising an anal dilator.
15. The endoscope according to claim 14, wherein said anal dilator comprises a channel in the cavity of intestines.
16. The endoscope according to any of claims 1, 2, 3, 7, 8, further comprising an endoscopic tube with a distal drives of traction lines, bending its distal end, made in the shape of cylinder/piston units.
17. The endoscope according to any of claims 1, 2, 3, 7, 8, further comprising an endoscopic tube with a distal drives of traction lines, bending its distal end, made in the shape of syphon.
18. The endoscope according to any of claims 1, 2, 3, 7, 8, further comprising a biopsy forceps in the shape of a flexible hermetic tube, on the distal end of said tube a piston of biopsy channel is placed.
19. The endoscope according to claim 18, further comprising a distal drive of cutters.
20. An endoscope comprising a mechanism for insertion of endoscopic tube in the shape of cylinder/piston unit.

**In the drawings:**

The drawing 4/4 has been amended as follows on page 4

Faithfully Yours,

Sergey Matasov, M.D.



APPROVED  
5/29/03  
Jm

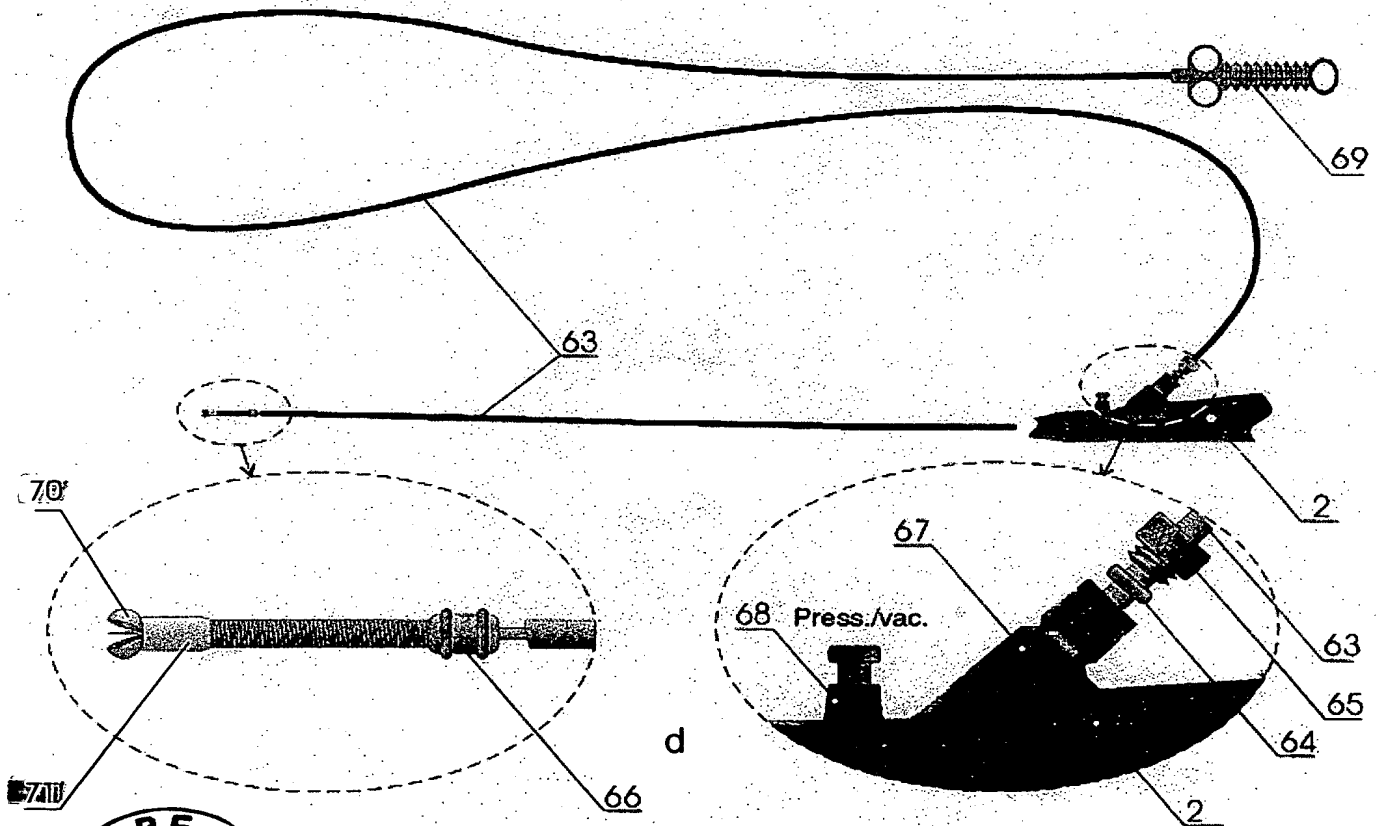
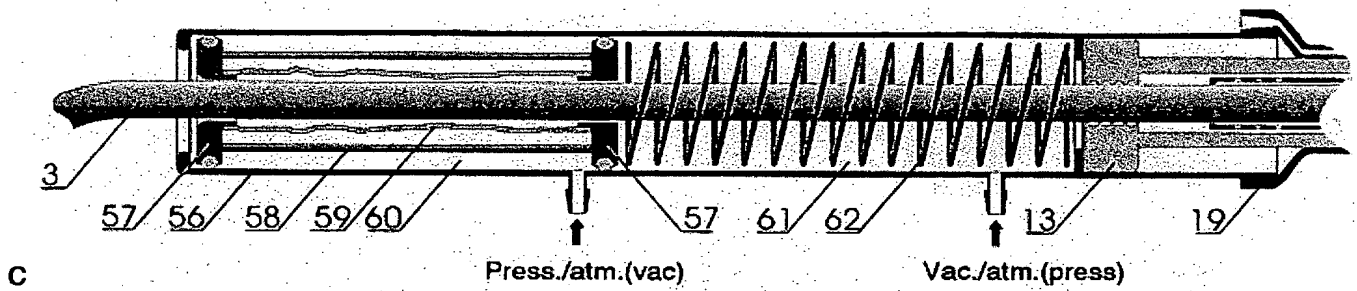
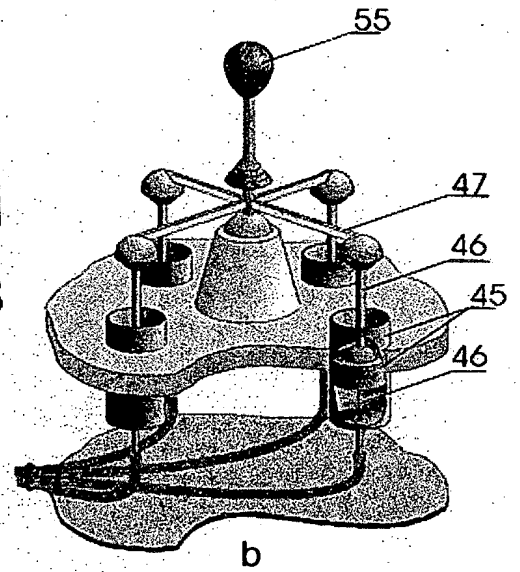
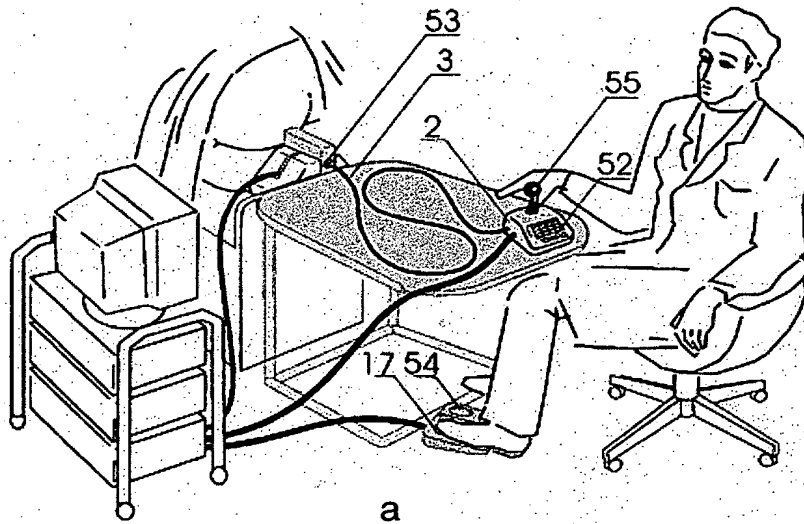


Fig.4

